

POLUBARINOVA-KOCHINA, P. Ya.

"The History of the Problem of the Rotation of a Solid," Iz. Ak. Nauk SSSR,
Otdel. Tekh. Nauk, 5, 1949.

Corr. Mbr. AS

*Applied Mechanics
Review*

*Soil Mechanics, Seepage
31*

1994. P. Ye. Pukhovskiy-Koshina, On unsteady motion of soil water seeping from water reservoirs (in Russian), Prikl. Mat. Mekh. 13, 197-206 (Mar.-Apr. 1949).

The paper presents and discusses at length the problem of unsteady seepage in the soil body, caused by a sudden change of the water level in an adjacent reservoir or canal. It is shown that, with some approximations, the problem may be reduced to the nonlinear partial differential equation of Poisson. Further approximations are needed to make the latter integrable. This is accomplished most conveniently by reduction to the linear equation of the type encountered in the heat flow, which is later applied to a number of specific cases. Derivation of the seepage equation in the form of the "telegraph equation" is also given.

Most of the specific cases considered belong to the two-dimensional type, with the flow occurring in XZ -plane. These comprise cases involving the following conditions: (1) The water surface in the ground is horizontal, prior to a sudden change of water level in an adjacent reservoir. The base is horizontal and impervious. (2) The same, except for an additional upward inflow, through a slightly pervious base. Two different conditions with regard to the initial ground-water surface are considered. (3) The impervious bottom is slightly curved. (4) Constant inflow of rain water from above. (5) A three-dimensional problem, similar to problem (1), except for the canal adjacent to the ground, having a dam in it, and the water, after a sudden change, standing at two

different levels on the upstream and the downstream sides in the canal. (6) Two problems of radial flow similar to cases (1) and (4).

A seepage problem involving two different liquids, with the boundary surface between them not deviating greatly from a horizontal plane, is also discussed.

In general the presentation of the subject in the paper is highly mathematical and none too lucid. The resultant expressions for the ground-water surface and discharge are usually given in explicit finite form, sometimes in the form of definite integrals. Only in case (1) are the results illustrated by graphs. The extent of errors produced by various approximations is left unknown, although in case (1) the graphs presented make apparent the discrepancy in solutions arrived at by different methods.

Alexander Hrennikoff, Canada

1750

POLUBARINOVA-KCCHINA, P.Ya. (Novosibirsk)

Pressure distribution in bedded soils. Izv. AN SSSR. Otd. tekhn. nauk. -
Mekh. i mashinostr. no. 3: 41-44 My-Je '63. (MIRA 16:8)

1. Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR.
(Water, Underground)

POLUBARINOVA-KOCHINA, P. YA.

52/49T101

USSR/Physics
Liquids - Flow
Filtration

May 49

"Irregular Filtration with Surfaces of Separation," P. Ya. Polubarinova-Kochina, Corr Mem, Acad Sci USSR, Inst of Mech, Acad Sci USSR, 3½ pp

"Dok Ak Nauk SSSR" Vol LXVI, No 2

Discusses various cases of the flow of two liquids with a common surface from a mathematical standpoint. Some aspects of the theory have been verified by experiments using a model. Submitted 12 Mar 49.

52/49T101

Inst. of Mech., AS c. 1949-

POLUBARINOVA-KOCHINA, P. Ya.

* Polubarinova-Kochina, P. Ya. *Zhizn' i deyatel'nost' S. V. Kovalevskaya. (K 100-letiyu so dnya rozhdeniya.)* [Life and work of S. V. Kovalevskaya. (On the centenary of her birth.)] Izdat. Akad. Nauk SSSR, Moscow-Leningrad, 1950. 51 pp. 2 rubles.

POLUBARINOVA-KOCHINA, P. Ya.

Polubarinova-Kochina, P. Ya. The scientific work of S. V. Kovalevskaya. *Uspehi Matem. Nauk (N.S.)* 5, no. 4(38), 3-14 (1 plat) (1950). (Russian)

Source: Mathematical Reviews,

Vol 12 No.

5

1. POLIBARINOVA-KOCHINA, P. Ya.

2. USSR (600)

"On Irregular Movement of Ground Water in Two Layers of Different Density," Iz. Ak. Nauk SSSR, Otdel. Tekh. Nauk, No. 6, 1940. Institute of Mechanics, Academy of Science USSR.

9. [REDACTED] Report U-1530, 25 Oct 1951.

POLUBARINOVA-KOCHINA, P. Ya.

"On the Question of Oozing In a Double-Layered Medium," Dok. AN, 26, No 4,
1940.
Institute of Mech., AS.

POLUBARINOVA-KOCHINA, P. Ya.

Polubarina-Kochina, P. Ya. On sources and sinks on a surface. Akad. Nauk SSSR. Prikl. Mat. Meh. 14, 57-64 (1950). (Russian)

The present paper deals with the determination of the velocity potential and the stream function for the steady, incompressible, irrotational flow of a fluid on a surface due to a source (or sink) on the surface. The surface is supposed given in parametric form: $x = f_1(\alpha, \beta)$, $y = f_2(\alpha, \beta)$, $z = f_3(\alpha, \beta)$. If the parameters α and β are isothermal, that is

$$ds^2 = \lambda(\alpha, \beta)[d\alpha^2 + d\beta^2],$$

and if further $\lambda(\alpha, \beta) \equiv 1$, then the velocity potential ϕ and the stream function ψ of a flow on the surface due to a source at the point (α_1, β_1) both satisfy Laplace's equation $(\partial^2 u / \partial \alpha^2) + (\partial^2 u / \partial \beta^2) = 0$, and hence

$$\phi(\alpha, \beta) = \frac{1}{2} \log [(\alpha - \alpha_1)^2 + (\beta - \beta_1)^2];$$

$$\psi = \arctan (\beta - \beta_1) / (\alpha - \alpha_1).$$

This remark is employed to determine ϕ and ψ for certain cylindrical surfaces and surfaces of revolution, and for a general ellipsoid. J. B. Diaz (College Park, Md.).

Source: Mathematical Reviews,

Vol. 12, No. 2.

SMJ

POLUBARTNOVA-KOCHINA, P. Ya.

Polubartnova-Kochina, P. Ya. On the unsteady motion of ground water. Doklady Akad. Nauk SSSR (N.S.) 75, 357-360 (1950). (Russian)

Formulae are derived on the basis of which a graphic method can be developed for the determination of the non-stationary motion of ground water near a canal that is being filled with water.

H. P. Thielman (Ames, Iowa).

Source: Mathematical Reviews,

Vol 12 No. 6

POLUBARINOVA-KOCHINA CORR MEM, ACAD SCI USSR P.YA.

USSR/Engineering - Hydraulics, Dams

Aug 51

"On Ye. A. Gavrashenko's Theory of Hydraulic-Fill Construction of Dams," P. Ya. Polubarinova-Kochina Corr Mem, Acad Sci USSR

"Gidrotekh Stroi" No 8, pp 15-17

Discusses 2 cases of unsettled hydraulic fill process in addition to investigations described by Ye. A. Gavrashenko in his paper, published in "Gidrotekh Stroi" No 5, 1950, concerning the hydraulic fill theory and steady flow.

200T80

Polubarinov, P. Ya. On the theory of unsteady motions in a many layered medium. Akad. Nauk SSSR. Prikl. Mat. Meh. 15, 511-514 (1951). (Russian)
In this paper the author studies a function $\Phi(x, y)$ which can be considered as a generalized potential averaged over the height in case the coefficient of filtration changes with the height. This function has the form

$$\Phi(x, y) = \int_0^h (z-h)k(z)dz,$$

where h is the pressure, considered as a function of the rectangular coordinates x, y in a vertical plane perpendicular to the layers of the medium through which the filtration takes place, and k is the coefficient of filtration which changes with the height. The equations which Φ must satisfy for the case of a two-layer medium are determined and special solutions of these equations are compared with the solutions for the case of the single-layer problem.

H. P. Thielman (Ames, Iowa).

Source: Mathematical Reviews,

Vol 13 No.3

Sumner

USSR/Geophysics - Ground Waters, Movement of Nov/Dec 51

"Dynamics of Ground Waters During Irrigation," P. Ya. Polubarinova-Kochina, Moscow, Inst Mech, Acad Sci USSR

"Priklad Matemat i Mekh" Vol XV, No 6 pp 649-654

The surface of the ground waters in the region which is being subjected to artificial irrigation (sprinkling) possesses a complicated form consisting of mounds and hollows which are deformed with the course of time. Considers herein certain problems concerning nonstationary motion of ground waters due to irrigation (spraying). The case of 198724

USSR/Geophysics - Ground Waters, (Contd) Nov/Dec 51

zone-shaped (strips) irrigation of sprinkling is taken as the 1st basic scheme, and the succeeding stage is the equalizing of mound of ground waters. Submitted 4 Jul 51.

POLUBARINOVA-KOCHINA,

198724

KOCHINA, P.Ya.

GROMEKA, Ippolit Stepanovich, 1851-1889; KOCHINA P.Ya. red.

[Collected works] Sobranie sochinenii. Red. P.IA Kochina.
Moskva, 1952, 295 p. (MLRA 8:8)
(Mechanics)

Polubarinova-Kochina, P. Ya.

Q1220. Polubarinova-Kochina, P. Ya. Theory of the movement of ground water (Teoriya dvizheniya gruntovykh vod), Moscow, Gosud. Izdat. Tekh. Nauk, LI, 1952, 676 pp.

This well-written and voluminous book is based on the author's lectures at Russian high schools. It is intended as a text book for students of Russian universities and contains two main parts:

the first 540 pages are devoted to stationary problems, the remainder to unsteady movement of ground water. The wide scope and variety of problems covered in the book will be clear from the titles of separate chapters.

The first main part contains the following eleven chapters, divided into 162 sections: 1. Physical and mathematical foundation of the theory of groundwater movement; 2. Plane movements in a vertical plane; 3. The pressure filtration below hydrotechnical structures; 4. Joukowski function and its use. Application of functional analysis (vis. to problems of filtration); 5. Use of circular inversion; 6. The mixed problem of the theory of functions and its application in the study of filtration; 7. Use of analytic theory of linear differential equations; 8. Filtration in nonhomogeneous and anisotropic grounds. Filtration of two liquids; 9. Springs and horos. Horizontal drainages. (The last four paragraphs of this chapter deal with some three-dimensional problems of filtration); 10. Hydraulic theory of steady movements; 11. Graphical, numerical, and experimental methods for the study of ground-water movement.

The five chapters of the second main part—41 sections—cover nonstationary problems; 12. Inertial members of unsteady movements; 13. Nonlinear equations of unsteady movements with a free surface; 14. Linear equations of the unsteady movement of groundwater (here again some three-dimensional problems); 15. Plane unsteady movements of ground waters; 16. Approximate numerical and graphical methods for the study of unsteady movements.

The book closes with a very extensive index of literature (Russian and also some non-Russian) compiled separately for each chapter, followed by a detailed index of subjects treated.

Reviewer believes each page of this work shows the great expertness of its author as well as the excellent role of Russian science in developing and applying mathematical theories to the study of ground-water movements. In spite of its expressly theoretical character, with its systematic use even of the most recent and often rather difficult mathematical expedients, the book gives sufficient emphasis to practical problems. Also welcome is the fact that all mathematical expedients are derived or, at all events, sufficiently explained immediately before the pertinent technical problem.

This successful work will probably be translated into other languages. Reviewer warmly recommends this volume, not only to interested specialists but also to physicists and mathematicians applying their science to advanced problems of engineering.

V. Vodička, Czechoslovakia

POLUBARINOVA-KOCHINA, P. YA.

Filters and Filtration

Filtration in two layers with an inclined line of separation. Izv. AN SSSR. otd. tekhn. nauk., No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, August, 1952. UNCLASSIFIED

POLUBARINOVA-KOCHINA, P. YA.

USSR/Mathematics - Mathematics History Jul/Aug 52

"From the Correspondence of S. V. Kovalevskaya,"
P. Ya. Polubarinova-Kochina

"Uspekhi Matemat Nauk" Vol VII, No 4 (50), pp 103-125

Copies of letters from the correspondence of famous mathematician, on the occasion of the 100th anniversary of her birth, in connection with references to mathematics and allied thoughts. Comments by the authoress. Some letters are in French, which are translated into Russian.

Also: Mathematical Review (Unclassified) Vol 14,
No 2, Feb 1953, pp 121-232.

225T59

Koçina, I. N., and Polubarinova-Koçina, P. Ya. On the application of smooth contours to the foundations of hydraulic structures. Akad. Nauk SSSR. Prikl. Mekh. 16, 57-66 (1952).

Investigations of the speed of the flow of water through a porous medium along the contours of the foundations of hydraulic structures whose cross-sections consist of straight line segments, it is found that at the corners there can exist very large velocities of flow. Such high velocities at any part of the foundation imbedded and floating on a porous medium are very undesirable since their presence can cause deformations in the supporting medium and thus endanger the stability of the structure. When the supporting porous medium is assumed to be of infinite depth, then it had been previously shown that a contour for the cross-section of the support in the form of a semicircle was the best shape in so far as the distribution of the speeds of flow of the water along the support is concerned, for along it the speed is constant. In the present paper there is considered the problem of determining the most desirable smooth contours for the supports of hydraulic structures floating in a porous medium of finite depth. The most desirable contours are here taken as those along which the rate of flow is constant. The distributions of velocities along supports whose cross-sections are rectangles with rounded corners and certain other cases are also considered.

H. P. Thielman.

ms
L2

Source: Mathematical Reviews.

Vol

13No.

USSR/Physics - Hydrodynamics,
Filtration

21 Feb 52

"Displacement of the Tongue of Ground Waters During
Filtration From a Channel," P. Ya. Polubarinova-Kochina,
Corr Mem, Acad Sci USSR, Inst of
Mech, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXII, No 6, pp 853-855

Under conditions of weakly varying free surface
of ground flow one can take the eq of this sur-
face for the plane case in the form $y=h(x,t)$,
where h is the pressure (head), which is con-
sidered independent of the depth of flow. From
it is derived the nonlinear eq $uu'' + u'^2 + zu' = 0$
214779

where u and z represent the reduced quantities:
 $h = Hu$ and $x = z\sqrt{H}$ (H is the height of water in
the channel). This nonlinear eq is solved in
series in $(z-c)$. Submitted 25 Dec 51.

POLUBARINOVA-KOCHINA, P. Ya.

214779

SOV/124-58-10-11325

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 90 (USSR)

AUTHOR: Polubarinova-Kochina, P.Ya.

TITLE: On the Seepage From Canals (O fil'tratsii iz kanalov)

PERIODICAL: V kn.: Tr. 3 sessii AN TurkmSSR, 3-6 maya 1952 g., Ashkhabad, Izd-vo AN TurkmSSR, 1953, pp 111-118

ABSTRACT: A survey of the most important results obtained during investigations dealing with steady and unsteady channel seepage processes under conditions of finite, or infinite, depth of ground-water drainage in homogenous and, in some individual instances, nonhomogenous soils. The author also examines some problems on the seepage from channels under conditions involving flow of two fluids having different densities. Among various problems which may be reduced to the type indicated above are the following: a) The problem of improving salt-contaminated soils by means of flushing; b) the problem of seepage of water from channels into horizontal drainage beds; c) the problem of the dynamics of subterranean waters during irrigation. In the majority of the problems examined the processes of ground-water flow are analyzed qualitatively, whereas in the case of simpler

Card 1/2

SOV/124-58-10-11325

On the Seepage From Canals

systems basic formulae are given. A novel problem is posed dealing with seepage of water from a channel containing a bottom-layer of soluble salts. Bibliography: 12 references.

P.F. Fil'chakov

Card 2/2

CHARNYI, I.A.; KOCHINA, P.Ya., chlen-korrespondent.

Calculating the lowering of free surface in the body of a dam during
changes in the level of the upper bay and the tailrace. Izv. AN SSSR
Otd. tekhn. nauk no. 6:813-827 Je '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Kochina).

(Soil percolation)

POMICHEV, M.S.; KOCHINA, P.Ya., cheln-korrespondent Akademii nauk SSSR.

Structure of a flow around a membrane in a real fluid. Izv. AN SSSR. Otd. tekhn. nauk no. 8:1157-1165 Ag '53. (MLBA 6:8)

1. Akademiya nauk SSSR (for Kochina).

(Hydrodynamics)

POLUBARINOVA-P. YA.
Kochina

POLUBARINOVA-KOCHINA, P.Ya. (Moskva).

Theory of deposition on dams. Inzh.sbor. 16:193-202 '53.

(MLRA 7:3)

(Dams) (Sedimentation and deposition)

Mathematical Reviews
Vol. 14 No. 11
December, 1953
Mechanics.

✓ Mikhailov, G. K. On filtration in trapezoidal dikes with a vertical upstream slope. Akad. Nauk SSSR. Prikl. Mat. Mekh. 17, 189-199 (1953). (Russian)

This is a continuation of the investigations of a filtration problem which were begun by P. Ya. Polubarinova-Kochina [Izvestiya Akad. Nauk SSSR. Ser. Mat. 1939, 579-602; these Rev. 2, 36] and which were continued by the author [Doklady Akad. Nauk. SSSR (N.S.) 80, 553-556 (1951)]. Certain integrals, in terms of which the flow through the dam was expressed in the author's earlier paper, are here evaluated in terms of infinite series. It is shown that for special values of one of the parameters occurring in the problem, the given infinite series reduce to well-known formulas of hydraulics. *H. P. Thielman* (Ames, Iowa).

POLUBARINOVA-KOCHINA, P.Ya. (Moscow)

Irregular filtration of gas in a coal seam. Prikl.mat.i mekh.
17 no.6:735-738 N-D '53. (MLBA 6:12)

1. Institut mekhaniki Akademii nauk SSSR.
(Mine gases)

POLUBARINOVA-KOCHINA, P. YA.

USSR/Mathematics - Theory of Fil-
tration

11 Mar 53

"Certain Nonlinear System of Partial Differential
Equations Applicable in Theory of Filtration,"
M. D. Rozenberg

DAN SSSR, Vol 89, No 2, pp 233-236

Presents particular cases of eqs which are reduced
to a system of ordinary differential eqs. Dis-
cusses transformations. Previous cases of trans-
formation were performed by L. S. Leybenzon (Iz
Ak Nauk SSSR, Ser. Geogr. i Geof. 9,1 (1945)) and

264T91

by P. Ya. Polubarinova-Kochina (DAN SSSR, 58,6
(1948)) who applied it to filtration of ground
waters. Presented by Acad A. I. Nekrasov. Recd
18 Jun 52.

KOCHINA, P. YA. (POLUBARINOVA-KOCHINA)

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Kochina, P. Ya. (Polubarinova-Kochina)	"The Theory of the Movement of Ground Waters"	Institute of Mechanics, Academy of Sciences USSR

SO: W-30604, 7 July 1954

POLUBARINOVA-KOCHINA, P. Ya.

U S S R

Polubarinova-Kochina, P. Ya. On the biography of S. V.
Kovalevskaya (according to material in her correspond-
ence). Istor.-Mat. Issled. 7, 666-712 (2 plates) (1954).
(Russian)

I = F/W

MS

Polubarinova, Kochina, P. Ya.

USSR .

910. Problem of the displacement of oil-bearing contours.
P. Ya. Polubarinova-Kochina and A. R. Shkirich. *Izv. Akad. Nauk S.S.S.R. Tekh. Nauk*, 1954, (11), 105-7.
Effect of wells on shift of oil-water interface is examined in the lab with glass models, using glycerol-air to replace oil-water; results are shown photographically. V. B.

POLUBARINOVA-KOCHINA, P. Ya.

USSR/Mathematics - Hydrodynamics

Card 1/1

Author : Polubarinova-Kochina, P. Ya.

Title : Several plane problems in the theory of filtration of gas in a coal stratum

Periodical : Prikl. mat. i mekh., 18, 3-14, Jan/Feb 1954

Abstract : Considers the problem of the stationary motion of gas during the removal of coal from a narrow stratum. The method of conformal reflections is used. The problem had been posed by A. A. Skochinskiy, A. S. Tsyrul'nikov, I. M. Yarov and R. M. Krichevskiy. The author thanks M. M. Semchinova for her assistance in preparing the article.

Institution : Mechanics Institute, Academy of Sciences of the USSR, Moscow

Submitted : November 17, 1953

POLUBARINOVA-KOCHINA, P. Ya.

✓ Polubarinova-Kočina, P. Ya. Sof'ya Vasil'evna Kova-
levskaya: Eë žizn' i deyatel'nost'. [Sof'ya Vasil'evna
Kovalevskaya: her life and work.] Gosudarstv. Izdat.
Tehn.-Teor. Lit., Moscow, 1955. 100 pp. 1.50 rubles.
A volume in the popular series Lyudi Russkoj Nauki
(Russian scientists).

KOCHINA, P. Ya.

PAVLOVSKIY, N.N., akademik; NEKRASOV, A.I., akademik; ~~KOCHINA, P. Ya.~~
ARAVIN, V.I., professor; AKHUTIN, A.N., professor; ZHURIN, V.D.,
professor; CHERTOUSOV, M.D., professor; ARKHANGEL'SKIY, V.A.,
dotsent; NUMEROV, S.N., dotsent; SEMCHINOVA, M.M., inzhener;
CHUGAYEV, R.R., professor, doktor tekhnicheskoy nauk; ESHMAN, Yu.A.,
redaktor; SMIRNOVA, A.V., tekhnicheskoy redaktor

[Collected works] Sobranie sochinenii. Moskva, Izd-vo Akademii
nauk SSSR. Vol. 1. [Principles of hydraulics, open channels and
the transition of water over hydraulic structures] Osnovy gidravliki
otkrytye rusla i sopriazhenie b'efov sooruzhenii. 1955. 547 p.
(MIRA 8:4)

1. Chlen-korrespondent AN SSSR (for Kochina)
(Hydraulics)

KOSTYAKOV, Aleksey Nikolayevich; FAVORIN, Nikolay Nikolayevich; AVER'YANOV, Sergey Fedorovich; KOCHINA, P.Ya., otvetstvennyy redaktor; PAVLENKO, N.I., redaktor izdatel'stva; ASTA'YEVA, T.A., tekhnicheskiy redaktor

[The effect of irrigation systems on ground water movement; a collection of articles] Vliianie orositel'nykh sistem na rezhim gruntovykh vod; sbornik. Moskva, Izd-vo Akademii nauk SSSR. Pt.1. 1956
449 p. (MIRA 10:1)

1. Chlen-korrespondent AN SSSR (for Kochina, Kostyakov)
(Irrigation) (Water, Underground)

POLIBARINOVA-KOCHINA, P. YA.

Handwritten initials: "Ples" with a checkmark.

29. Polibarinova-Kochina, P. Ya. Slanted and horizontal wells of finite length (in Russian). Pril. Mat. Mekh. 20, 1, 95-100, Jan. Feb. 1956.

Systems of horizontal wells have large application in water power plants, whereas slanted wells are mostly used in naphtha mines. Author developed theories referring to various conditions in horizontal wells on the basis of thorough investigations in the Warsaw water plants with new filtration systems and on discussions with the director, V. Voynarevich, and his assistants, Vl. Skoczinski and V. Kollis, which were published in Archives of applied Mechanics, Warsaw, 7, no. 3, 1955. Application of these theories to slanted wells under steady and variable pressure, built in different strata, is the subject of this paper. Bessel functions are used for the solution.

Reference is made to following authors who made similar investigations for vertical wells: P. Samsoe, N. K. Gidinski, M. Masler, B. I. Segal. J. J. Polivka, USA

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POLUBARINOVA-KOCHINA, P.Ya. (Moskva)

Fresh-water lens over salt water. Prikl.mat.i mekh. 20 no.3:
418-420 My-Je '56. (MLRA 9:8)
(Water, Underground)

POLUBARINOVA-KOCHINA, P.Ya. (Moskva)

Julius Weisbach as a mechanician. Izv.AN SSSR.Otd.tekh.nauk
no.2:98-103 F '57. (MLRA 10:5)
(Weisbach, Julius Ludwig, 1806-1871)

Name : KOCHINA, P. Ya

Title : Associate Member of USSR Academy of Sciences

Remarks: The author, a woman, adds her voice to a series of articles entitled "Voice of Soviet Scientists", appealing for the outlawing of nuclear war.

Source : P: New Times (Moskva), No. 37, 12 September 1957, p. 5

POJUBARINOVA-KOCHINA, P.Ya.

James Joseph Sylvester and S.V. Kovalevskaja. Vop.1st.est. 1 tek.
no.5:156-162 '57. (MIRA 11:2)

(Sylvester, James Joseph, 1814-1897)
(Kovalovskaia, Sof'ia Vasil'evna, 1850-1891)

Kochina, P.Ya.
AVER'YANOV, S.F.; ALEKSANDROV, B.K.; ASKOCHENSKIY, A.N.; BLIZNYAK, Ye.B.;
ZAMARIN, Ye.A.; KOVALENKO, I.I.; KOCHINA, P.Ya.; KUZNETSOV, I.A.;
POSLAVSKIY, V.V.; SRIBNYY, M.F.; TURCHINOVICH, V.T.; FAVORIN,
N.N.; SHAROV, I.A.

Aleksei Nikolaevich Kostiaikov; obituary. Izv. AN SSSR. Otd. tekhn.
nauk no.10:113-114 O '57. (MIRA 10:12)
(Kostiaikov, Aleksei Nikolaevich, 1887-1957)

AUTHOR: Polubarinova-Kochina, P.Ya. (Moscow) 40-21-6-7/18

TITLE: On Certain Unsteady Motions of Shallow Water (O nekotorykh neustanovivshikhsya dvizheniyakh "melkoy vody")

PERIODICAL: Prikladnaya Matematika i Mekhanika, 1957, Vol 21, Nr 6, pp 783-794 (USSR)

ABSTRACT: After a discussion of the results obtained up to now for the problem of the divergence of heads of liquid, as it can arise e.g. in underwater explosions, the problem is essentially considered to find similar solutions for incompressible liquids. The author shows that the problem of divergence of a head of liquid has certain analogies to the problem of the formation of hills within the ground-water level. The performance of this analogy for the hydraulic case leads to the establishment of equations which correspond to the well-known equations of Bussinesque in the theory of ground-water movements. The author investigates similar solutions of these equations and applies thereby a method elaborated by Sedov for investigating similar solutions of equations of a liquid in a porous medium. It appears that such similar solutions really exist, however, they do not correspond completely to the solutions which are found

Card 1/2

On Certain Unsteady Motions of Shallow Water

40-21-6-7/18

for the problem of the ground-water flows. It is particularly found a solution for the case of the divergence of a constant liquid mass which is combined in a very small range in the initial moment. Some of the obtained results can be transferred to the case of adiabatic motions of gases with the adiabatic exponent $\gamma = 2$. There are 6 figures and 10 references, 8 of which are Soviet, and 2 American.

SUBMITTED: July 4, 1957

AVAILABLE: Library of Congress

1. Water-Motion-Theoretical analysis

Card 2/2

ARKHANGEL'SKIY, Vladimir Alekseyevich; KOCHINA, P.Ya., akademik, otvetstvennyy red.; BANKVITSER, A.L., red. izd-va; KASHINA, P.S., tekhn. red.

[Flow of dissolved-gas oil in the well and layer] Dvizhenie gazirovannykh neftei v sisteme skvazhina - plast. Moskva, Izd-vo Akad. nauk SSSR, 1958. 89 p. (MIRA 11:8)

(Petroleum engineering)

AVER'YANOV, Sergey Fedorovich; ~~POLUBARINOVA-KOCHINA~~, P.Ya., akademik,
otv.red.; GORSHKOV, G.B., red.izd-va; ~~MARKOVICH~~, G.G., tekhn.red.

[Horizontal drainage in salinization control of irrigated lands]
Gorizonta'l'nyi drenazh pri bor'be s zasoleniem oroshaemykh zemel'.
Moskva, Izd-vo Akad.nauk SSSR, 1959. 82 p. (MIRA 12:11)
(Drainage)

SOV/179-59-2-8/40

AUTHORS: Kulabukhova, I. I. and Polubarinova-Kochina, P. Ya. (Tashkent, Moscow)

TITLE: Unsteady Percolation on Incomplete Saturation of a Soil (O neustanovivsheysya fil'tratsii pri nepolnoy nasyshchennosti grunta)

PERIODICAL: Izvestiya Akademii nauk SSSR OTN, Mekhanika i mashino-stroyeniye, 1959, Nr 2, pp 57-63 (USSR)

ABSTRACT: The problem considered in the paper is of interest in connection with the drainage of water from canals, with the percolation of rainfall, with capillary rise and with the movement of water in agricultural soils. By inserting the analytical expression for Darcy's law in the equation of continuity, a non-linear differential equation is obtained. This equation is simplified by expressing the degree of saturation as a power series and limiting the series to two terms. The solution of the resulting linear differential equation contains exponential and error functions, and curves are given (Fig 1) showing the distribution of moisture as a function of

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SOV/179-59-2-8/40

Unsteady Percolation on Incomplete Saturation of a Soil

depth and time. By integrating the solution, an equation for total discharge is obtained, and simple approximate expressions corresponding to long and short times are derived which show that the discharge decreases with time and finally attains a constant value. The case of capillary rise is also considered, and the results of the present investigation are compared with those of other workers. There are 3 figures and 12 references, 6 of which are Soviet and 6 English.

SUBMITTED: November 20, 1958.

Card 2/2

POLUBARINOVA-KOCHINA, P.Ya. (Moskva)

Motion of underground water caused by the fluctuations of the
water level in reservoirs with a vertical boundary. Prikl. mat.
i mekh. 23 no.3:540-545 My-Je '59. (MIRA 12:5)
(Water, Underground)

MENDELEYEV, Dmitriy Ivanovich [deceased]; DUBRAVIN, A.I., inzh.-kapitan
1-go rango, otv.red.toma; KOCHINA, P.Ya., retsenzents; SKOBOV,
D.P., prof., doktor tekhn.nauk, zasluzhennyy deyatel' nauki i
tekhniki, retsenzents; TOLKACHEV, S.S., red.izd-va; ZENDEL',
M.Ye., tekhn.red.

[Conquest of the Far North] Osvoenie Krainego Severa. Moskva,
Izd-vo Akad.nauk SSSR. Vol.1. [High latitudes of the Arctic
Ocean] Vysokie shirotы Severnogo Ledovitogo okeana. 1960. 427 p.
(MIRA 13:7)

1. Deystvitel'nyy chlen AN SSSR (for Kochina).
(Arctic Ocean)

- KOCHINA, P.Ya., akademik

Irrigation in Kulunda Steppe. Vest.AN SSSR 30 no.5:24-26
My '60. (MIRA 13:5)
(Kulunda Steppe--Irrigation)

POLUBARINOVA-KOCHINA, P. YA.

KOCHINA, P.Ya., akademik

Congress of the French Hydraulic Engineering Society. Vest.AM
SSSB 30 no.12:92-93 D '60. (MIRA 13:12)
(Hydraulic engineering--Congresses)

POLUBARINOVA-KOCHINA, I'.Ya.

Radius of influence of a well. Izv.Sib.otd.AN SSSR no.5:20-29
'60. (MIRA 13:7)

1. Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR.
(Wells) (Water, Underground)

KOCHIN, N.Ye., akad.; KOCHINA, P.Ya., akad., otv. red.; TALITSKIKH, N.A.,
red. izd-va; YEPIFANOVA, L.B., tekhn. red.

[Vector analysis and fundamentals of the calculus of tensors] Vektor-
noe ischislenie i nachala tenzornogo ischisleniia. Izd.8. Moskva,
Izd-vo Akad. nauk SSSR, 1961. 426 p. (MIRA 14:10)
(Vector analysis) (Calculus of tensors)

POLUBARINOVA-KOCHINA, P.Ya. (Novosibirsk)

Approximate calculation of some three-dimensional problems
on ground water flow. Izv. AN SSSR.Mekh. no.4:183-185 J1-Ag
'65. (MIRA 18:12)

POLUBARINOVA-KOCHINA, P. Ya.

In memory of A.A. Fridman; on the 75th anniversary of his birth.
Usp. fiz. nauk 70 no.3:345-352 J1 '63. (MIRA 16:9)
(Fridman, Aleksandr Aleksandrovich, 1888-1925)

POLUBARINOVA-KOCHINA, P.Ya. (Novosibirsk)

Discharge of tubular wells. Izv. AN SSSR Otd. tekhn. nauk.
Mekh. i mashinostr. no.2:38-42 Mr-Ap '63. (MIRA 16:6)

(Wells)

POLUBARINOVA-KOCHNIA, P. YA.

Helicoidal Motions of Liquids. p. 160

TRANSACTIONS OF THE 2ND REPUBLICAN CONFERENCE ON MATHEMATICS AND MECHANICS
(TRUDY VTOROY RESPUBLIKANSKOY KONFERENTSIY PO MATEMATIKE I MEKHANIKE), 184
pages, published by the Publishing House of the AS KAZAKH SSR, ALMA-ATA, USSR, 1962

POLUBARINOVA-KOCHINA, P.Ya. (Novosibirsk)

Steady-state movements of ground water in strata bordering on weakly permeable strata. PMTF no.1:91-95 My-Je '60. (MIRA 14:2)

1. Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR.
(Water, Underground) (Hydrodynamics)

OGIYEVETSKIY, V.I.; POLUBARINOV, I.V.

Gauge transformations of Green's functions. Zhur. eksp. i teor. fiz.
40 no.3:926-932 Mr '61. (MIRA 14:8)

1. Ob'yedinennyy institut yadernykh issledovaniy.
(Potential, Theory of) (Transformations (Mathematics))

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001341910012-9"

~~L 21002-66~~ BWT(m)/BWP(t) IJP(e) JD/WB
ACCESSION NR: AP5014135

UR/0365/65/001/003/0297/0303
620.194
620.199

12
10
B

AUTHOR: Zarubin, P. I.; Poluboyartseva, L. A.; Novakovskiy, V. M.

TITLE: Investigation of metal corrosion in heat transfer conditions

SOURCE: Zashchita metallov, v. 1, no. 3, 1965, 297-303

TOPIC TAGS: corrosion, corrosion rate, thermodynamic equilibrium, heat transfer

ABSTRACT: It is shown that rotating disc electrodes may be used for simulating the diffusion-dependent corrosion processes which take place in a circular tube during the flow of an aggressive liquid both in conditions of thermal equilibrium and when the liquid is being heated or cooled through the wall. Experimental data indicate that if the wall temperature and the solution temperature are exactly reproduced in the model, then the velocity of the disc which is equivalent to the predetermined linear velocity of the liquid flow may be determined with satisfactory accuracy from Novakovskiy's equation for thermally balanced systems (V. M. Novakovskiy, S. N. Fishman, "Work in the Field of Electrochemistry and Corrosion", Tr. Ural'sk. n.-t.

L 21002-66

ACCESSION NR: AP5014135

2
khim. in-ta, Goshkhimizdat, 1961, p 71). The methods developed in this paper are used to show that there may be a considerable difference in the effect which the velocity of the liquid flow has on the rate of diffusion-dependent corrosion with respect to thermal equilibrium and heat transfer conditions. Orig. art. has: 4 figures, 5 formulas.

ASSOCIATION: Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut (Ural Scientific Research Institute of Chemistry); Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Scientific Research Institute)

SUBMITTED: 02Feb65

ENCL: 00

SUB CODE: TD, MM

NO REF SOV: 010

OTHER: 004

Card 2/2 BK

SEVER'YANOV, Nikolay Nikolayevich; POLUBELOV, A.S., otv. red.;
PETRAKOVA, Ye.P., red. izd-va; GALANOVA, V.V., tekhn. red.

[General planning of coal mining enterprises] General'nye plana
ny ugol'nykh predpriatii. Moskva, Gosgortekhnizdat, 1961. 330 p.
(MIRA 15:7)

(Coal mines and mining)

SHVERNIK, Aleksandr Mikhaylovich; SOKOLOV, Anatoliy Valentinovich;
POLUBELOV, Aleksey Sergeyevich; KISELEV, Georgiy Ivanovich;
BERNSHTEYN, Rafail Lazarevich; SLAVUTSKIY, Samuil Oskarovich;
NEVEL'SHTEYN, Yurii Grigor'yevich; KONDRATENKO, Leonid
Fedorovich; LASKIN, Anatoliy Aronovich; LUR'YE, Zakhar
Solomonovich; MAKAROV, Vladimir Aleksandrovich; NOVOZHILOV,
M.G., retsenzent; BILLICHENKO, N.Ya., retsenzent; VARSHAVSKIY,
A.M., retsenzent; TARTAKOVSKIY, B.N., retsenzent. Prinimali
uchastiye: ANTONOV, V.A., inzh.; VERBLYUNSKIY, Yu.I., inzh.;
ZEMSKOV, P.F., otv. red.

[Overall mechanization and automatic control in strip mines]
Kompleksnaya mekhanizatsiya i avtomatizatsiya na kar'erakh.
Moskva, Nedra, 1964. 582 p. (MIRA 18:4)

Polubelov, V.

POLUBELOV, V.; SHEBEKO, N.

Experience in operating fire engines in Yakutia. Pozh. delo 4 no.2:19-20
F '58. (MIRA 11:1)

1. Nachal'nik Otdela protivopozharnoy oborony Yakutskoy ASSR (for Polubelov).
2. Starshiy nauchnyy sotrudnik Tsentral'nogo nauchno-issledovatel'skogo instituta protivopozharnoy oborony (for Shebeko)
(Yakutia--Fire engines--Cold weather operation)

KRYLOV, V.N.; POLUBELOVA, A.S.

Dehydration of bauxites obtained from various deposits. Zhur.
prikl.khim. 29 no.5:698-704 My '56. (MLBA 9:8)
(Bauxite)

Polubelova A.S.

I-6

USSR /Chemical Technology. Chemical Products
and Their Application

Mineral salts. Oxides. Acids. Bases.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31245

Author : Krylov V. N., Polubelova A.S.

Title : Studies of Dehydration of Bauxite from Different
Deposits

Orig Pub: Zh. prikl. khimii, 1956, 29, No 5, 698-704

Abstract: It is shown that the starting point of dehydra-
tion of bauxite, within the temperature range of
220-470°, depends on the nature of the bauxite
and on its grain size. Temperature intervals
have been determined which ensure removal of
main portion of crystallization water, depending
on particle size of bauxite and place of its

Card 1/2

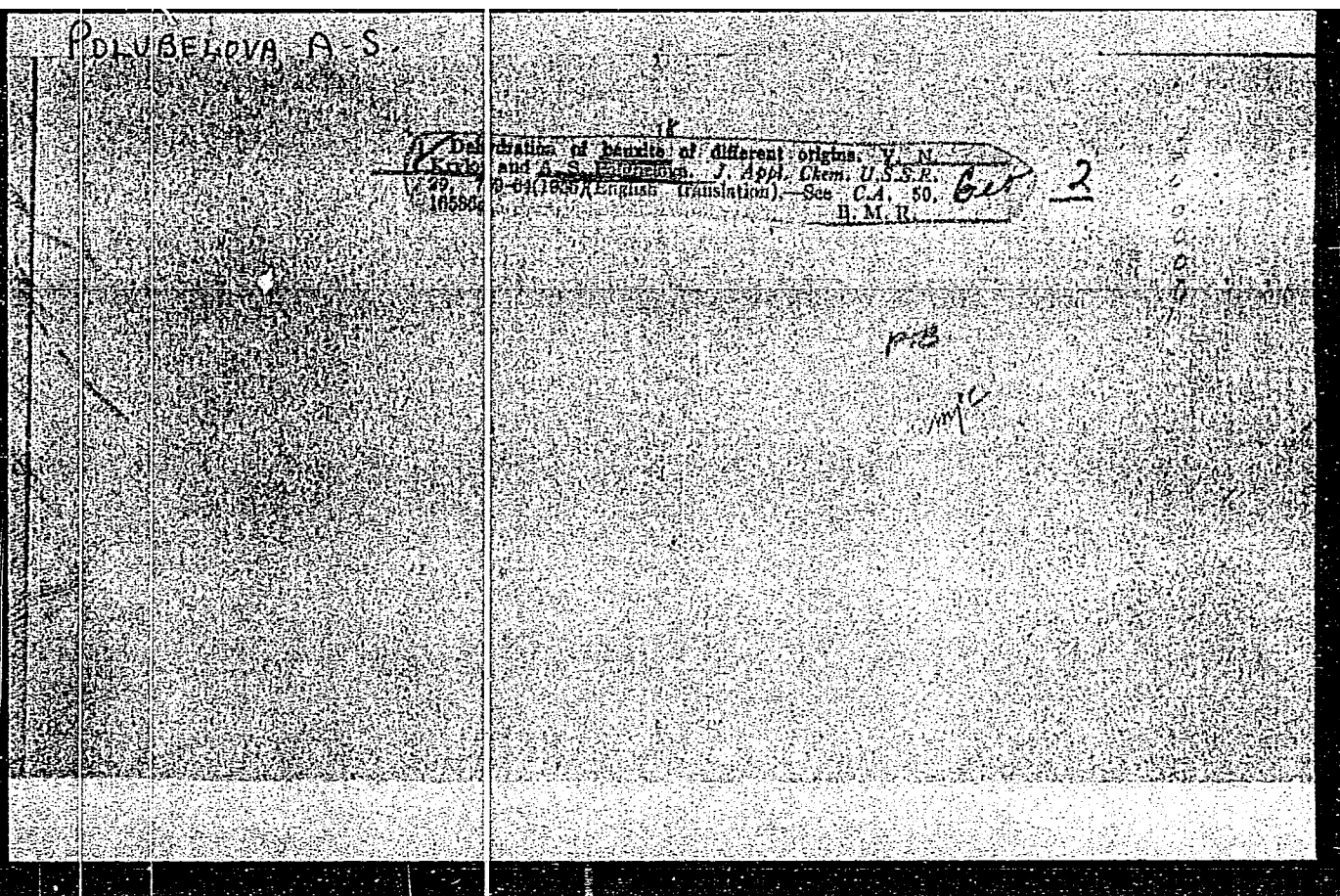
CA

4

Effect of anthracene oils on the melting point of pitch and the quality of electrode and electrode carbon products
V. N. Kivlov and A. S. Polubskaya. *J. Applied Chem. U.S.S.R.* 23, 281-4 (English translation); *Zhur. Priklad. Khim.* 23, 271-4 (1950).-- Tests were made to det. the feasibility of lowering the m. p. of pitch by adding anthracene oil and the effect of this addn. to the binder on the mech. strength of electrodes. The mech. strength of the electrodes reduced by this addn.; however, a 2-4% addn of oil is recommended to facilitate pressing. The m. p. of the pitch is definitely lowered by the addn. of anthracene oil.
M. McMahon

1951

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
COMMON ELEMENTS																										COMMON VARIABLES INDEX																									
POLUBELOVA, A. S.																																																			
B																																																			
Influence of Free Carbon in the Bonding Substance on the Quality of Carbon Parts Used in the Electrical Industry. (In Russian.) V. N. Krylov, A. S. Polubekova, and A. G. Bogdanova. <i>Zhurnal Prikladnoi Khimii</i> (Journal of Applied Chemistry), v. 23, Apr. 1950, p. 365-369. The above was experimentally investigated with respect to treatment with benzene. Obtained data, tabulated and charted, indicate that a free-carbon content of about 16% is optimum, giving minimum electrical resistance, maximum mechanical strength, and maximum density of product. Relation of free carbon in pitch used as bonding agent to amount required for optimum characteristics was determined. Data are tabulated.																																																			
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION 621137 One One 161																																																			



Pokubelova, A. S.

The specific heats and the thermodynamic functions of silicon carbide and boron carbide. M. S. Maksimenko and A. S. Pokubelova. *Trudy Leningrad. Tekhnol. Inst. im. Steklova* 33, 30-7 (1955). — The mol. sp. heats of B₄C and of black and green SiC were measured and their relation to temp. was derived. The mean vol. sp. heats were: C_p for B₄C in the range 200-1000° = $0.025 + 3.325 \times 10^{-5} t - 4.375 \times 10^{-8} t^2$; C_p, black SiC, 200-1000° = $7.0002 + 5.500 \times 10^{-5} t - 2.0312 \times 10^{-8} t^2$; C_p, green SiC, 130-80° = $5.6923 + 2.2588 \times 10^{-5} t - 2.7740 \times 10^{-8} t^2$; C_p, green SiC, 300-1000° = $0.263 + 3.7400 \times 10^{-5} t - 1.0439 \times 10^{-8} t^2$. The true sp. heats were: C_p, B₄C, 200-1000° = $0.275 + 7.225 \times 10^{-5} t - 4.3125 \times 10^{-8} t^2$; C_p, black SiC, 200-1000° = $5.9312 + 11.5624 \times 10^{-5} t - 6.0936 \times 10^{-8} t^2$; C_p, green SiC, 300-1000° = $8.461 + 6.1063 \times 10^{-5} t - 3.1317 \times 10^{-8} t^2$. The exptl. data were used to calc. the changes in isobar potential, entropy, and enthalpy.

B. M. Elkin

POLUBEN', I., polkovnik

Preservice training of draftees and future servicemen. Komm.Voeruzh.Sil
2 no.17:65-66 S '62. (MIRA 15:8)

1. Nachal'nik politotdela Krasnodarskogo krayevogo voyennogo
komiteta.

(Military education)

1. POLUBENSKIY, V.V.
2. USSR (600)
4. Sunflowers
7. New varieties of sunflower in the area of the Voronezh-Kursk Vegetable Oil Trust.
Masl.zhir.prom 17, no.2, 1952
9. Monthly List of Russian Accession, Library of Congress, February, 1953. Unclassified

POLUBENSKIY, V. V.

Oilseed Plants

Work of the Voronezh-Kursk Vegetable Oil Trust in developing its raw material supply.
Masl.-zhir. prom. 18, No. 3, 1953.

SO: Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

IPAT'YEV, A.N.; BOGDANOVA, Yu.G.; KIL'SHEVSKAYA, Yu.F.; NIKITINA, L.V.;
POLUBESOVA, Ye.I.; TSENILOVA, N.A.

Autumn apple varieties of Mogilev and Gornel' Provinces in White Russia.
Pot.; issl. Bel. sdd. VBO no.6:235-242 '64. (MIRA 18:7)

MITNIK, Iosif Leonidovich; POLUBEVA, V.I., inzh., red.

[Assembly of industrial building walls from large panels;
experience of trust No.89 of the Central Ural Main
Construction Administration] Montazh sten promyshlennykh
zdanii iz krupnykh panelei; opyt tresta no.89 Glavsredural-
stroia. Moskva, Stroiizdat, 1964. 31 p. (MIRA 18:7)

1. Nachal'nik Stroitel'nogo upravleniya No.8 tresta No.89
Glavsreduralstroya (for Mitnik).

KUSHTA, Grigoriy Pavlovich [Kushta, H.P.]; POLUBICHKO, B., red.;
SARANYUK, T., tekhn.red.

[Metallography] Rentgenografiia metaliv. L'viv, Vyd-vo
L'viva'koho univ., 1959. 386 p. (MIRA 13:3)
(X rays--Industrial applications) (Crystal lattices)

BUGAY, P.T. [Bogai, P.T.]; VIDUYEV, M.G. [Viduiev, M.H.], prof.,
 doktor tekhn. nauk, retsenzent; YEVSEYEV, S.V. [IEvsieiev, S.V.]
 doktor tekhn. nauk, retsenzent; GOLDIRYEV, B.V. [Holidiriev, B.V.],
 dots., kand. tekhn. nauk, retsenzent; LISICHANSKIY, O.S. [Lysychan-
 skyi, O.S.], kand. tekhn. nauk, otv. red.; POLUBICHKO, B.V., red.; SARANYUK,
 T.V., tekhnred.

[Theory of errors and the method of least squares] Teoriia po-
 mylok i sposib naimenshykh kvadrativ. L'viv, Vyd-vo L'vivs'ko-
 ho univ. Pt.1. 1960. 366 p. (MIRA 15:11)

(Least squares)

(Geodesy)

MOLOTKOVSKIY, Georgiy Khristianovich; LYUBINSKIY, N.A., doktor biolog.
nauk, otv.red.; POLUBICHKO, B.V., red.; MALYAVKO, A.V.,
tekhn.red.

[Polarity in plant development] Polarnost' razvitiia rastenii.
L'vov, Izd-vo L'vovskogo univ., 1961. 261 p.

(Polarity (Botany))

(MIRA 15:5)

GERENCHUK, K.I.[Herenchuk,K.I.], prof.: KOINOV. M.M.. dots.; TSIS',
P.M.[TSys', P.M.], prof.; POLUBICHKO, B.V., red.

[Natural and geographical division of the Lvov and Podolian
Economic regions] Pryrodno-geografichnyj podil L'vivs'koho
ta Podil'skoho ekonomichnykh raioniv. L'viv, Vyd-vo
L'vivs'koho univ., 1964. 219 p. (MJRA 17:12)

RUMYANISEV, B.P., dots., otv. red.; GULIDA, E.N., red.; KARTASHOV,
I.N., prof., red.; KIRILLOV, Yu.G., dots., red.;
MOGIL'NYI, N.I., dots., red.; SEVRYUK, V.N., dots., red.;
STAN'KO, D.G., dots., red.; TSOY, N.G., dots., red.;
KHLUS, A.A., dots., red.; POLUBICHKO, B.V., red.

[Problems of locomotive manufacture, technology of machine
manufacture and founding] Voprosy lokomotivostroeniia,
tekhnologii mashinostroeniia i liteinogo proizvodstva.
L'vov, Izd-vo L'vovskogo univ., 1964. 126 p. (MIRA 17:10)

1. Lugansk. Mashinostroitel'nyy institut.

ZAPOL'SKIY, V.G. [Zapol's'kiy, V.H.], kand. arkhitekt. dots.;
SKUBCHENKO, G.M. [Skubchenko, H.M.], inzh.-arkht.,
dots.; BEDILO, O.T. [Biedilo, O.T.], dots., otv. red.;
POLUBICHKO, B.V., red.

[Buildings on automobile roads] Budynky na avtomobil'nykh
dorohakh. L'viv. Vyd-vo L'vivs'koho univ., 1964. 155 p.
(MIRA 18:8)

LAZARENKO, Ye.K. [Lazarenko, I.E.K.]; MATKOVSKIY, O.I. [Matkovs'kyi, O.I.];
VINAR, O.M. [Vynar, O.M.]; SHASHKINA, V.P.; GNATIV, G.M. [Hnativ,
H.M.]; POLUBICHKO, B.V., red.; SARANTUK, T.V., tekhnred.

[Mineralogy of igneous complexes in western Volhynia] Mineralslogiia
vyverzhennykh kompleksiv Zakhidnoi Volyni. L'viv, Vyd-vo L'vivs'koho
univ., 1960. 508 p. (MIRA 13:9)
(Volhynia--Rocks, Igneous)

KRZYMOWSKI, Tadeusz; PRZALA, Jadwiga; POLUBIEC, Andrzej; OLK, Jerzy;
ROSTKOWSKA, Jadwiga

Effect of the inhibition of the lymphatic system with adrenal
cortex hormones on erythropoietic activity in experimental
polycythemia. Acta physiol. pol. 14 no.5:461-469 S-0'63

1. Z Katedry Fizjologii Zwierząt WSR w Olsztynie (kierownik:
doc.dr. T.Krzymowski) i z Kliniki Hematologicznej Instytutu
Hematologii i Katedry Hematologii Studium Doskonalenia Lekarzy
w Warszawie (kierownik: prof.dr. W.Lawkowicz).

*

L 43135-65 EWG(a)-2/EWG(c)/EWG(j)/EWG(r)/EWG(v)/EWG(1)/FS(v)-3 Pe-5 DD

ACCESSION NR: AP5002994

P/0056/64/015/006/0805/0817

AUTHOR: Polubiec, A.

TITLE: Incorporation of Fe-59 into human bone marrow cells in vitro under conditions of altitude hypoxia

SOURCE: Acta physiologica polonica, v. 15, no. 6, 1964, 805-817

TOPIC TAGS: erythropoiesis, bone marrow, radio iron incorporation, hypoxia, high altitude

ABSTRACT: The author reports an experimental study of the question whether high-altitude hypoxia can stimulate human bone marrow cells directly to incorporate labelled iron in vitro. For this purpose, human bone marrow cells (taken from 10 persons 19-31 years old) were incubated with Fe-59 at 37C in a small low-pressure chamber where a pressure corresponding to an altitude of 6000 meters above sea level was established. Controls were incubated at the same temperature under atmospheric pressure. The following are described: The method of obtaining 2-cc bone marrow samples; the preparation of a bone marrow suspension for incubation; the method of preparing the samples after incubation for radioactivity measurement;

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ACCESSION NR: AP5002994

and the technique of measuring the radioactivity of the samples after incubation (an electronic LE-5-type counter of Polish production was used and the pulses were counted for 2 minutes). The number of counts for each sample was recalculated to give a result per 10,000 nucleated cells. It was established that the average percentage increase of Fe-59 incorporation with time for the samples in the low-pressure chamber was higher than for the controls incubated under atmospheric pressure; this increase was 43.4% after 24 hours' incubation and 57.1% after 48 hours' incubation. By comparing the average number of counts from the tested samples and from the controls, it was noted that in both cases the number of counts (per unit of time and per 10,000 nucleated cells) increased in parallel with the incubation time. The results obtained are discussed in the light of past work in this field, and the following conclusions are drawn: (i) High-altitude hypoxia stimulates human bone marrow cells in vitro to increase the incorporation of labelled iron; (ii) During high-altitude hypoxia, the incorporation of labelled iron into human bone marrow cells in vitro increases with the time of incubation; (iii) An increase in the incorporation of labelled iron with the time of incubation is also observed under conditions of normal atmospheric pressure. Orig. art. has: 1 figure and 3 tables.

Card 2/3

L 43135-65

ACCESSION NR: AP5002994

ASSOCIATION: Katedra Hematologii SDL w AM, Warsaw (Department of Hematology,
SDL AM); Klinika Hematologiczna Instytutu Hematologii, Warsaw (Hematological
Clinic of the Institute of Hematology)

SUBMITTED: 06Apr64

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 024

Card 3/3

Card stamp

BRAGIEL, Irena; JASSER, Stefania; KOLAKOWSKA, Kazimiera; KRZEMIŃSKA-LAWKOWICZOWA, Irena; POLUBIEC, Andrzej; ROSTKOWSKA, Jadwiga.

Studies on the behavior of the properdin and complement levels in diseases of the hematopoietic system. Pol. arch. med. wewn. 33 no.12:1359-1367 '63.

1. Z Kliniki Hematologicznej Instytutu Hematologii i Katedry Hematologii SDL w Warszawie (kierownik: prof.dr.med. W.Lawkowicz) i z Pracowni Wassermanowskiej Instytutu Hematologii w Warszawie.

*

POLUBIEC, Andrzej

Effect of controlled effort on the leucocyte system in athletes.
Polski tygod. lek. 16 no.8:309-311 20 F '61.

1. Z Glownej Poradni Sportowe-Lekarskiej w Warszawie; dyrektor: dr
med. Waslaw Siderowicz.

(EXERTION) (LEUKOCYTE COUNT) (SPORT MEDICINE)

YAVOROVSKAYA, S.F., kandidat khimicheskikh nauk; POLUBINSKIY, A.L.

Pseudoliquefaction applied in gas purification. Khim.prom. no.2:91-94
Mr '55. (MIRA 8:8)

1. Tsentral'naya nauchno-issledovatel'skaya laboratoriya gigieny i
epidemiologii Ministerstva putey soobshcheniya.
(Scrubber (Chemical technology))

POLUBINSKIY, L.

Gor'kiy's small television center. Radio no.11:52 N '53. (ML2A 6:11)
(Gor'kiy--Television) (Television--Gor'kiy)

DANILEVSKIY, Vladimir Viktorovich, dots.; Primal uchastiye POLUBINSKIY, V.I., yurist; SAMOKHOTSKIY, A.I., retsenzent; KHOLIN, V.A., retsenzent; STANKEVICH, V.G., inzh., retsenzent; SMIRNOV, B.V., nauchnyy red.; SAMSONOVA, M.T., red.izd-va; YEZHOVA, L.L., tekhn. red.

[Manual for technicians in machinery manufacture] Spravochnik tekhnika-mashinostroitel'ia. Moskva, "Vysshaya shkola," 1962. 644 p.
(MIRA 15:6)

1. Chleny predmetnoy komissii Moskovskogo mashinostroitel'nogo tekhnika im. Dzerzhinskogo (for Samokhotskiy, Kholin, Stankevich).
(Mechanical engineering)

POLUBISOK, I.I., klinicheskiy ordinator

Diverticulitis caused by ascariasis. Zdrav.Bel. 8 no.7:79-80 J1
'62. (MIRA 15:11)

1. Iz kliniki obshchey khirurgii (zav. - prof. T.Ye.Gnilorybov)
Minskogo meditsinskogo instituta i khirurgicheskogo otdeleniya
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(ASCARRIDS AND ASCARIASIS) (ILEUM--DISEASES)

PETTSEL', V.A.; POLUBNEV, W.F.; VASIL'YEVA, L.L.; KULIKOVA, R.Ye.;
IVANENKO, I.S.; SUGLOBOV, S.I.; BUD'KO, V.A.; GREBEN'KOV, M.V.

Experience in the prevention of chronic gastritis. Voen. med.
zhur. no.10:61-63 0 '65. (MIRA 18:11)

GURVICH, S.M.; LIVSHITS, A.K.; POLUBNEVA, E.P.

Production of the OMSB frother. Sbor. nauch. trud. Gintsvetmeta
no.19:289-292 '62. (MIRA 16:7)

(Flotation—Equipment and supplies)

5(3)

SOV/79-29-8-72/81

AUTHORS: Gusakova, G. S., Panferov, E. A., Polubneva, E. P.

TITLE: Oxymethylene Ketones. II. Synthesis of the Alkoxyethylene-cyclohexanones and Their Transformations in the Reduction Reactions (Ref 1)

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ABSTRACT: The formation of non-saturated aldehydes mixed with 1,3-glycols in the reduction of the β -dicarbonyl compounds to be enolized with aluminum-lithiumhydride was described by A. Dreiding and J. Hartman (Ref 2). The authors of the present paper found that in place of the β -dicarbonyl compounds the alkoxyethylene- β -carbonyl compounds behave in the same way (Ref 3). So the α -formylcyclohexanone ether (I, R=iso-C₄H₉) when reduced with aluminum-lithium hydride at 20° forms the aldehyde (III) with a 70% yield. When reduced with aluminum isopropylate in isopropyl alcohol at 95° (I) also transforms into (III) (24-25%). The reduction with hydrogen at the moment of separation takes place in such a way that all double bonds are satu-

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methylenecyclohexanones and Their Transformations in the Reduction Reactions
(Ref 1)

rated. So the reduction of the compounds (I) with sodium in ether containing water leads to the compound (II) (Scheme 1). The ether (II) does not saponify under the influence of the diluted acids and forms derivatives at the hydroxyl group. The authors observed the directions given by L. Ružicka and co-workers (Ref 4) and tried to obtain the acetals of formylcyclohexanone by the effect of the ester of orthoformic acid upon it in the presence of concentrated hydrochloric acid. They then wanted to transform them by a further reduction into the oxyacetals. This reaction, however, failed under the conditions prescribed even when orthophosphoric acid was used instead of concentrated hydrochloric acid as an addition to *n*-toluenesulphonic acid. In experiments with ammonium nitrate the ethyl ether of α -oxymethylenecyclohexanone (I, R=C₂H₅) also formed with various yields (Scheme 2). The spectrum analysis confirmed the above results. The figure shows the very similar infrared absorption curves of compounds (I, R=iso-C₄H₉) and (I, R=C₂H₅).

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Thus the β -dicarbonyl compounds to be enolized behave ano-

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(Ref 1)

malously in the reaction with orthoformic ester in that they form the ethyl ethers of the enol forms instead of the acetals. The authors conclude by thanking N. A. Preobrazhenskiy, G. I. Samokhvalov for their participation in the discussion of the results, and L. V. Luk'yanova for the photography and interpretation of the infrared spectra. There are 1 figure and 10 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow
Institute of Fine Chemical Technology)

SUBMITTED: July 18, 1958

Card 3/3

KREYNDLIN, A.N., inzh., red.; POLUDNEVA, V.I., inzh., red.

[Plant production of series 1605 A housing components; practices of the Kazan Plant No.1 for Large Panel House Construction. Collection of articles] Zavodskoe izgotovlenie detalei domov serii 1605A; opyt Kazanskogo zavoda krap-nopanel'nogo domostroeniia No.1. Sbornik statei. Moskva, Gosstroizdat, 1963. 45 p. (MIRA 17:8)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoi pomoshchi stroitel'stvu.

RATS, Emmanuil Genrikhovich, laureat Leninskoy premii, kand. tekhn. nauk; POLUBNEVA, V.I., inzh., red.

[Practice of using an electrothermal method of tensioning reinforcements] Opyt primeneniia elektrotermicheskogo metoda natiazheniia armatury. Moskva, Gosstroizdat, 1963. 75 p. (MIRA 17:6)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Zamestitel' direktora Gosudarstvennogo nauchno-issledovatel'skogo instituta zhelezobetonnykh izdeliy, stroitel'nykh i nerudnykh materialov i zaveduyushchiy laboratoriyey sbornyykh zhelezobetonnykh konstruktsiy Gosudarstvennogo nauchno-issledovatel'skogo instituta zhelezobetonnykh izdeliy, stroitel'nykh i nerudnykh materialov (for Rats).

SMIRNOV, V.D., kand. tekhn.nauk; POLUBNEVA, V.I., inzh., red.

[Farm buildings made of vibration rolled panels; based on materials of the Experimental Design Office of the Academy of Construction and Architecture of the U.S.S.R., the Klin Plant for Reinforced Concrete Elements (Moscow Province) and the Moscow Province Construction Administration] Sel'skokhoziaistvennye proizvodstvennye zdaniia iz vibroprokatnykh paneli; po materialam Eksperimental'no-konstruktor-skogo biuro ASiA SSSR, Klinskogo zavoda zhelezobetonnykh konstruksii (Moskovskaia obl.) i Mosoblstroia. Moskva, Gosstroizdat, 1963. 28 p. (MIRA 17:8)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.

BEREZIN, N.N.; METSCER, E.Kh.; POLUBIN, V.I., inzh., red.

[Rolled panels for walls of waterproofed gypsum slag concrete for sanitary engineering systems; practices of the "Tagilstroi" Trust of the Sverdlovsk Economic Council] Prokatnye paneli peregorodok iz vodostoikogo gipsoshlakobetona dlia sanitarno-tekhnicheskikh uzlov; opyt tresta "Tagilstroi" Sverdlovskogo sovnarkhoza. Moskva, Gosstroizdat, 1962. 25 p. (MIRA 17:7)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoschi stroitel'stva.

LYSOVA, A.I., kand. tekhn. nauk; GOLANT, Sh.N., kand. tekhn. nauk;
POLUBNEVA, V.I., inzh., red.

[Roofs of glass reinforced plastics; according to materials of the Leningrad Research Institute of the Academy of Communal Economics] Krovlia iz stekloplastik; po materialam Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khoziaistva im. K.D.Pamfilova. Moskva, Gosstroizdat, 1961. 21 p. (MIRA 17:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
2. Starshiy nauchnyy sotrudnik Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova (for Lysova).
3. Rukovoditel' laboratoriyey sinteticheskikh materialov Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova (for Golant).